

RIVERS AND FLOODS, JULY, 1911.

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There were no floods during the month except in the Rio Grande, the Pecos River, and the upper portion of the Blue River. As early as July 3 flood warnings were issued for that portion of the Rio Grande from San Marcial, N. Mex., to El Paso, Tex., and a stage of 16.5 feet or higher was forecast for El Paso within three days. On July 7 the stage was 17.3 feet, 2.3 feet above the flood stage. Warnings for higher stages were also issued on July 16 and 19, and on July 21 an estimated stage of 18 feet was reached. On July 24 warnings were issued for that portion of the river between Espanola and San Marcial, N. Mex. The river was close to the flood stage at Albuquerque, N. Mex., on July 25, and above the flood stage at Rincon, N. Mex., from July 27 to 29, inclusive, with a crest stage of 11 feet, or 3 feet above the flood stage, on July 28. From San Marcial to El Paso the river was above the flood stage for the greater portion of the month. Flood stage was also reached in the Pecos River at Carlsbad, N. Mex., on July 26, and interests were advised. The dam was broken and great damage to ranches and irrigated farms was reported.

Heavy rains caused a sharp rise in the rivers of Texas shortly after the middle of the month, and advisory

warnings were issued. Flood stages were not reached. Heavy local rains caused a flood in the Blue River between Beatrice, Nebr., and Blue Rapids, Kans. At Beatrice the river rose 25 feet in 26 hours, reaching a stage of 26 feet at 10 a. m., July 23, 12 feet above the flood stage, while at Blue Rapids the crest stage was 18 feet, 4 feet above the flood stage, on July 25. Railroad traffic was interrupted and there was considerable other damage of the usual character.

Other rivers east of the Rocky Mountains were unusually low, and in many of them the lowest stages of record were reached.

The Columbia River fell steadily after reaching the crest of the annual rise during the second and third decades of June.

Hydrographs for typical points on several principal rivers are shown on Chart I. The stations selected for charting are Keokuk, St. Louis, Memphis, Vicksburg, and New Orleans, on the Mississippi; Cincinnati and Cairo, on the Ohio; Nashville, on the Cumberland; Johnsonville, on the Tennessee; Kansas City, on the Missouri; Little Rock, on the Arkansas; and Shreveport, on the Red.